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Ni, Jian
Rosen, Craig A.

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Gly Met Thr Ser Glu Cys Ser Glu Ile Arg Gln Ala Gly Arg Pro Asn
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Lys Pro Asp Ser Ile Thr Val Val Ile Thr Lys Val Thr Asp Ser Tyr
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cct gag cca acc cag ctc ctc atg ggg acc aag tct gta tgc gaa gta   1163
Pro Glu Pro Thr Gln Leu Leu Met Gly Thr Lys Ser Val Cys Glu Val
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Gly Ser Asn Trp Phe Gln Pro Ile Tyr Leu Gly Ala Met Phe Ser Leu
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caa gaa ggg gac aag cta atg gtg aac gtc agt gac atc tct ttg gtg   1259
Gln Glu Gly Asp Lys Leu Met Val Asn Val Ser Asp Ile Ser Leu Val
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Asp Tyr Thr Lys Glu Asp Lys Thr Phe Phe Gly Ala Phe Leu Leu
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Phe Lys Asn Gln Phe Pro Ala Leu His Trp Glu His Glu Leu Gly Leu
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Ala Phe Thr Lys Asn Arg Met Asn Tyr Thr Asn Lys Phe Leu Leu Ile
            25                  30                  35

Pro Glu Ser Gly Asp Tyr Phe Ile Tyr Ser Gln Val Thr Phe Arg Gly
         40                  45                  50

Met Thr Ser Glu Cys Ser Glu Ile Arg Gln Ala Gly Arg Pro Asn Lys
     55                  60                  65

Pro Asp Ser Ile Thr Val Val Ile Thr Lys Val Thr Asp Ser Tyr Pro
 70                  75                  80                  85

Glu Pro Thr Gln Leu Leu Met Gly Thr Lys Ser Val Cys Glu Val Gly
                90                  95                  100

Ser Asn Trp Phe Gln Pro Ile Tyr Leu Gly Ala Met Phe Ser Leu Gln
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Glu Gly Asp Lys Leu Met Val Asn Val Ser Asp Ile Ser Leu Val Asp
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Leu Ser Leu Phe Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe
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Cys Leu Leu His Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Ser Pro
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Arg Asp Leu Ser Leu Ile Ser Pro Leu Ala Gln Ala Val Arg Ser Ser
 65                  70                  75                  80

Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His Val Val Ala Asn Pro
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Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu
            100                 105                 110

Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu Val Val Pro Ser
        115                 120                 125

Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly
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Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile Ser Arg Ile Ala
145                 150                 155                 160

Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala Ile Lys Ser Pro
                165                 170                 175

Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu
            180                 185                 190

Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys Gly Asp Arg Leu
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Gln Gly Leu Pro Gly Val Gly Leu Thr Pro Ser Ala Ala Gln Thr Ala
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Arg Gln His Pro Lys Met His Leu Ala His Ser Thr Leu Lys Pro Ala
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Ala His Leu Ile Gly Asp Pro Ser Lys Gln Asn Ser Leu Leu Trp Arg
 65                  70                  75                  80

Ala Asn Thr Asp Arg Ala Phe Leu Gln Asp Gly Phe Ser Leu Ser Asn
                 85                  90                  95
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Asn Ser Leu Leu Val Pro Thr Ser Gly Ile Tyr Phe Val Tyr Ser Gln
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Val Val Phe Ser Gly Lys Ala Tyr Ser Pro Lys Ala Pro Ser Ser Pro
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Leu Tyr Leu Ala His Glu Val Gln Leu Phe Ser Ser Gln Tyr Pro Phe
130 135 140

His Val Pro Leu Leu Ser Ser Gln Lys Met Val Tyr Pro Gly Leu Gln
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Glu Pro Trp Leu His Ser Met Tyr His Gly Ala Ala Phe Gln Leu Thr
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Gln Asp Gln Gly Gly Leu Val Thr Glu Thr Ala Asp Pro Gly Ala Gln
50 55 60

Ala Gln Gln Gly Leu Gly Phe Gln Lys Leu Pro Glu Glu Glu Pro Glu
65 70 75 80

Thr Asp Leu Ser Pro Gly Leu Pro Ala Ala His Leu Ile Gly Ala Pro
85 90 95

Leu Lys Gly Gln Gly Leu Gly Trp Glu Thr Thr Lys Glu Gln Ala Phe
100 105 110

Leu Thr Ser Gly Thr Gln Phe Ser Asp Ala Glu Gly Leu Ala Leu Pro
115 120 125

Gln Asp Gly Leu Tyr Tyr Leu Tyr Cys Leu Val Gly Tyr Arg Gly Arg
130 135 140

Ala Pro Pro Gly Gly Gly Asp Pro Gln Gly Arg Ser Val Thr Leu Arg
145 150 155 160

Ser Ser Leu Tyr Arg Ala Gly Gly Ala Tyr Gly Pro Gly Thr Pro Glu
165 170 175

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Leu Leu Leu Glu Gly Ala Glu Thr Val Thr Pro Val Leu Asp Pro Ala
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Arg Arg Gln Gly Tyr Gly Pro Leu Trp Tyr Thr Ser Val Gly Phe Gly
        195                 200                 205

Gly Leu Val Gln Leu Arg Arg Gly Glu Arg Val Tyr Val Asn Ile Ser
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His Pro Asp Met Val Asp Phe Ala Arg Gly Lys Thr Phe Phe Gly Ala
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Val Met Val Gly
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Pro Pro Pro Pro Ser Pro Leu Pro Pro Pro Ser Gln Pro Pro Pro Leu
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Pro Pro Leu Ser Pro Leu Lys Lys Lys Asp Asn Ile Glu Leu Trp Leu
 65                  70                  75                  80

Pro Val Ile Phe Phe Met Val Leu Val Ala Leu Val Gly Met Gly Leu
                 85                  90                  95

Gly Met Tyr Gln Leu Phe His Leu Gln Lys Glu Leu Ala Glu Leu Arg
            100                 105                 110

Glu Phe Thr Asn His Ser Leu Arg Val Ser Ser Phe Glu Lys Gln Ile
        115                 120                 125

Ala Asn Pro Ser Thr Pro Ser Glu Thr Lys Lys Pro Arg Ser Val Ala
    130                 135                 140

His Leu Thr Gly Asn Pro Arg Ser Arg Ser Ile Pro Leu Glu Trp Glu
145                 150                 155                 160

Asp Thr Tyr Gly Thr Ala Leu Ile Ser Gly Val Lys Tyr Lys Lys Gly
                165                 170                 175

Gly Leu Val Ile Asn Glu Ala Gly Leu Tyr Phe Val Tyr Ser Lys Val
            180                 185                 190

Tyr Phe Arg Gly Gln Ser Cys Asn Ser Gln Pro Leu Ser His Lys Val
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Tyr Met Arg Asn Phe Lys Tyr Pro Gly Asp Leu Val Leu Met Glu Glu
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Lys Lys Leu Asn Tyr Cys Thr Thr Gly Gln Ile Trp Ala His Ser Ser
225                 230                 235                 240

Tyr Leu Gly Ala Val Phe Asn Leu Thr Val Ala Asp His Leu Tyr Val
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Leu Ser Leu Phe Ser Phe Leu Leu Val Ala Gly Ala Thr Thr Leu Phe
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Cys Leu Leu His Phe Arg Val Ile Gly Pro Gln Glu Glu Glu Gln Ser
    50                  55                  60

Pro Asn Asn Leu His Leu Val Asn Pro Val Ala Gln Met Val Thr Leu
65                  70                  75                  80

Arg Ser Ala Ser Arg Ala Leu Ser Asp Lys Pro Leu Ala His Val Val
                85                  90                  95

Ala Asn Pro Gln Val Glu Gly Gln Leu Gln Trp Leu Ser Gln Arg Ala
            100                 105                 110

Asn Ala Leu Leu Ala Asn Gly Met Lys Leu Thr Asp Asn Gln Leu Val
        115                 120                 125

Val Pro Ala Asp Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Ser
    130                 135                 140

Gly Gln Gly Cys Arg Ser Tyr Val Leu Leu Thr His Thr Val Ser Arg
145                 150                 155                 160

Phe Ala Val Ser Tyr Pro Asn Lys Val Asn Leu Leu Ser Ala Ile Lys
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Ser Pro Cys His Arg Glu Thr Pro Glu Glu Ala Glu Pro Met Ala Trp
            180                 185                 190

Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys Gly Asp
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gaagataaaa ccttctttgg agccttctta ctataggagg agagcaaata tcattatatg 240

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tgattatgta cacaggtntc taaataagga agtatgagtt tcacatgtat attcaaaaat 300

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<220>
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gggaatgaac ctctgaantg ccagtgaaaa tcagncaagc aggccgacca aacaagccag 180

antccatnca ctgtggtcat caccaaggta acagacagct accctgagcc aacccagctc 240

cttcatgggg accaagtttg tttgcgaant aggttagcaa ctggttccag cccattttac 300

cttgggggcc agttctnctt gncaagaagg ggacaagctt atggtggaac gttcatanca 360

tcnttttgg gtggntttac acaaaagg 388

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<211> 37
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<213> Homo sapiens

<400> 13
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<210> 14
<211> 36
<212> DNA
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<400> 14
cgcgtctaga ctatagtaag aaggctccaa agaagg 36

<210> 15
<211> 37
<212> DNA
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<400> 15
gcgcggatcc accatgagac gctttttaag caaagtc 37

<210> 16
<211> 36
<212> DNA
<213> Homo sapiens

<400> 16
cgcgtctaga ctatagtaag aaggctccaa agaagg 36

<210> 17
<211> 56

<212> DNA
<213> Homo sapiens

<400> 17
cgctctagat caagcgtagt ctgggacgtc gtatggatag taagaaggct ccaaag 56

<210> 18
<211> 733
<212> DNA
<213> Homo sapiens

<400> 18
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aattcgaggg tgcaccgtca gtcttcctct tccccccaaa acccaaggac accctcatga 120

tctcccggac tcctgaggtc acatgcgtgg tggtggacgt aagccacgaa gaccctgagg 180

tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg 240

aggagcagta caacagcacg taccgtgtgg tcagcgtcct caccgtcctg caccaggact 300

ggctgaatgg caaggagtac aagtgcaagg tctccaacaa agccctccca acccccatcg 360

agaaaaccat ctccaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc 420

catcccggga tgagctgacc aagaaccagg tcagcctgac ctgcctggtc aaaggcttct 480

atccaagcga catcgccgtg gagtgggaga gcaatgggca gccggagaac aactacaaga 540

ccacgcctcc cgtgctggac tccgacggct ccttcttcct ctacagcaag ctcaccgtgg 600

acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcat gaggctctgc 660

acaaccacta cacgcagaag agcctctccc tgtctccggg taaatgagtg cgacggccgc 720

gactctagag gat 733

<210> 19
<211> 1116
<212> DNA
<213> Homo sapiens

<400> 19
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cacggcagct gcaggcccaa ggccaggagc agcagcgcac gctgggctct cacctgctgc 120

ctggtgttgc tccccttcct tgcaggactc accacatacc tgcttgtcag ccagctccgg 180

gcccagggag aggcctgtgt gcagttccag gctctaaaag gacaggagtt tgcaccttca 240

catcagcaag tttatgcacc tcttagagca gacggagata agccaagggc acacctgaca 300

gttgtgagac aaactcccac acagcacttt aaaaatcagt tcccagctct gcactgggaa 360

catgaactag gcctggcctt caccaagaac cgaatgaact ataccaacaa attcctgctg 420

atcccagagt cgggagacta cttcatttac tcccaggtca cattccgtgg gatgacctct 480

gagtgcagtg aaatcagaca agcaggccga ccaaacaagc cagactccat cactgtggtc 540

atcaccaagg taacagacag ctaccctgag ccaacccagc tcctcatggg gaccaagtct 600

gtatgcgaag taggtagcaa ctggttccag cccatctacc tcggagccat gttctccttg 660

caagaagggg acaagctaat ggtgaacgtc agtgacatct ctttggtgga ttacacaaaa 720

gaagataaaa ccttctttgg agccttctta ctataggagg agagcaaata tcattatatg 780

aaagtcctct gccaccgagt tcctaatttt ctttgttcaa atgtaattat aaccaggggt 840

tttcttgggg ccgggagtag gggcattcca cagggacaac ggtttagcta tgaaatttgg 900

ggcccaaaat ttcacacttc atgtgcctta ctgatgagag tactaactgg aaaaaggctg 960

aagagagcaa atatattatt aagatgggtt ggaggattgg cgagtttcta aatattaaga 1020

cactgatcac taaatgaatg gatgatctac tcgggtcagg attgaaagag aaatatttca 1080

acaccttcct gctatacaat ggtcaccagt ggtcca 1116

<210> 20
<211> 251
<212> PRT
<213> Homo sapiens

<400> 20
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1 5 10 15

Met Leu Pro Glu His Gly Ser Cys Arg Pro Lys Ala Arg Ser Ser Ser
20 25 30

Ala Arg Trp Ala Leu Thr Cys Cys Leu Val Leu Leu Pro Phe Leu Ala
35 40 45

Gly Leu Thr Thr Tyr Leu Leu Val Ser Gln Leu Arg Ala Gln Gly Glu
50 55 60

Ala Cys Val Gln Phe Gln Ala Leu Lys Gly Gln Glu Phe Ala Pro Ser
65 70 75 80

His Gln Gln Val Tyr Ala Pro Leu Arg Ala Asp Gly Asp Lys Pro Arg
85 90 95

Ala His Leu Thr Val Val Arg Gln Thr Pro Thr Gln His Phe Lys Asn
100 105 110

Gln Phe Pro Ala Leu His Trp Glu His Glu Leu Gly Leu Ala Phe Thr
115 120 125

Lys Asn Arg Met Asn Tyr Thr Asn Lys Phe Leu Leu Ile Pro Glu Ser
130 135 140

Gly Asp Tyr Phe Ile Tyr Ser Gln Val Thr Phe Arg Gly Met Thr Ser
145 150 155 160

Glu Cys Ser Glu Ile Arg Gln Ala Gly Arg Pro Asn Lys Pro Asp Ser
165 170 175

Ile Thr Val Val Ile Thr Lys Val Thr Asp Ser Tyr Pro Glu Pro Thr
180 185 190

Gln Leu Leu Met Gly Thr Lys Ser Val Cys Glu Val Gly Ser Asn Trp
195 200 205

Phe Gln Pro Ile Tyr Leu Gly Ala Met Phe Ser Leu Gln Glu Gly Asp
210 215 220

Lys Leu Met Val Asn Val Ser Asp Ile Ser Leu Val Asp Tyr Thr Lys
225 230 235 240

Glu Asp Lys Thr Phe Phe Gly Ala Phe Leu Leu
245 250

<210> 21
<211> 434
<212> DNA
<213> Homo sapiens

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gtatgcgaag taggtagcaa ctggttccag cccatctacc tcggagccat gttctccttg 120

caagaagggg acnagctaat ggtgaacgtc agtgacatct ctttggtgga ttacacaaaa 180

gaagataaaa ccttctttgg agccttctta ctataggagg agagcaaata tcattatatg 240

aaagtcctct gccaccgagt tcctaatttt ctttgttcaa atgtaattat aaccaggggt 300

tttcttgggg ccgggagtag ggggcattcc cacagggaca acggtttagc tatgaaattt 360

gggggggccca aaatttcaca acttcatngt tgcccttact tgatgagaag tacttaactt 420

gganaaaagg cttg 434

<210> 22
<211> 417
<212> DNA
<213> Homo sapiens

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nnnttnnaat gctgccagag cacggcagct gcaggcccaa ggccaggagc agcagcgcac 120

gctgggctct cacctgctgc ctggtgttgc tccccttcct tgcaggactc accacatacc 180

tgcttgtcag ccagcttcgg gnccagggng aggcctgtgt gcagttccag ggtctaaaag 240

gacaggagtt tgcaccttca catcagcaag tttatgcacc tnttagagca gacggagata 300

agccangggg acaactgaca nttgtgagac aaattccaca cagnanttta aaatcagttt 360

ccagttttga atggggacan nattaggctg gcttnacaag accgntggat tttacag 417

<210> 23
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<222> (375)
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aaattcctgc tgatcccaga ntcgggagac tacttcattt actcccaggt cacattccgt 120

gggaatgaac ctctgaantg ccagtgaaaa tcagncaagc aggccgacca aacaagccag 180

antccatnca ctgtggtcat caccaaggta acagacagct accctgagcc aacccagctc 240

cttcatgggg accaagtttg tttgcgaant aggttagcaa ctggttccag cccattttac 300

cttgggggcc agttctnctt gncaagaagg ggacaagctt atggtggaac gttcatanca 360

tcnttttgg gtggntttac acaaaagg 388

<210> 24
<211> 458

<212> DNA
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cccaaaattt cacacttcat gtgccttact gatgagagta ctaactggaa aaaggctgna 120

agagagcaaa tatattatta agatgggttg gaggattggc gagtttctaa atattaagac 180

actggatcac tgaaatgaat ggatgatcta ctcgggtcca ggattgaaag agaaatattt 240

caacaccttc ctgctataca atggtcacca gtggtccagt tattgttcca atttggatcc 300

atnaatttgc nttcaattcc aggagctttg gaaggaattc caaggaaagc tccaggaaaa 360

ccgtattaaa ctttccaggg gccaaantcc ttcaccaatt ttttccacna actttccagg 420

cctgncncaa aaaaatggaa agggagttgg tangtccc 458